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NOTICE OF A RARE ZIPHIROID WHALE, *MESOPLODON DENSIROSTRIS*, ON THE
NEW JERSEY COAST.

BY ROY CHAPMAN ANDREWS.

The Academy of Natural Sciences of Philadelphia has been fortunate in securing the skeleton of a rare Beaked whale, *Mesoplodon densirostris* (Blainville), taken at Corson's Inlet, N. J., June 18, 1913, by Henry W. Fowler and Wm. J. Fox. This specimen makes possible the first positive identification of this animal on the American coast and, since it has hitherto been known only from the seas about Australia and the Indian Ocean, gives important evidence as to the extensive range of the species.

In 1906, Dr. Glover M. Allen,¹ reported upon a young female Beaked whale found dead on the coast at Annisquam, Mass., in August, 1898, the skeleton of which was secured for the Boston Society of Natural History by Prof. Alpheus Hyatt. Dr. Allen referred this specimen to *Mesoplodon bidens* (Sowerby) and gave a description of the skeleton and external anatomy so far as the latter was known. Some years later Dr. F. W. True² restudied the specimen, the skull of which is somewhat injured, and decided that it probably represented *Mesoplodon densirostris* (Blainville). In concluding his discussion of this specimen, Dr. True remarks: "Although with such scant material it is not possible to determine satisfactorily the identity of this third species of *Mesoplodon* in the North Atlantic, represented by the Annisquam specimen, I feel convinced that that specimen does not belong to *M. bidens* and that there is a strong probability that it belongs to *M. densirostris*. It is true that the latter species has been found hitherto only in the Indian Ocean and about Australia, but we know so little about the distribution of the ziphioid whales that, in my opinion, that circumstance by itself should not be given very great weight." (*l.c.*, p. 11).

A comparison of the New Jersey whale with the beautiful figures of the skull of *M. densirostris* given by Van Beneden and Gervais

¹ *Am. Naturalist*, Vol. 40, 1906, pp. 357-367.

² An Account of the Beaked Whales of the Family Ziphiidæ in the Collection of the United States National Museum. *U. S. Nat. Mus., Bull.* 73, 1910, pp. 9-11.

in the *Ostéographie des Cétacés*, Plate XXV, demonstrates that it is certainly referable to that species. It also shows the distinctive characters of the rostrum and other parts of the skull present in the Massachusetts skeleton and leaves little doubt that Dr. True's identification of the latter with *M. densirostris* is correct. The New Jersey specimen thus definitely introduces *Mesoplodon densirostris* into the North American fauna.

I have to thank Mr. Henry W. Fowler for the privilege of examining and reporting upon this specimen and to congratulate the Academy upon its acquisition.

It is desirable to give a brief description of the exterior and skeleton as well as figures of certain bones since the osteology of the species, other than the skull, is rather imperfectly known.

Mr. Fowler has furnished the following notes upon the external characters of the specimen: "In color the skin was mostly uniform blackish, smooth and shining. About the head and jaws, below, and irregularly along the ventral surface medianly, were livid pale areas sometimes with very faint bluish tints. Afterward various parts of the body became somewhat reddish in tint due to decomposition going on. The flukes of the tail and the dorsal and pectoral fins were entirely black.

"This whale had been dead but a very short time when discovered, and had evidently been struck with some object, possibly a harpoon, on the side of the neck.

"It has also bled a little at the mouth as may be seen from the photograph (this wrongly suggesting the corner of the mouth). The photograph does not give a good idea of the greatly elevated gums of the lower jaw. . . . No barnacles or parasites of any kind were found in, or on, this specimen. The stomach was full of undetermined organic material. The whale was 14 feet 5 inches long and 4 feet in circumference."

The skeleton shows that the individual from which it was taken, although not old, was fully adult, for the mesorostral cartilage is thoroughly ossified and all the epiphyses are firmly ankylosed to the vertebral bodies.

The skulls of the Massachusetts and New Jersey specimens agree closely in all important particulars, the only noticeable difference being in the absence in the former of the maxillary tubercle between the anteorbital notch and the base of the rostrum. This is supposedly a character of age, but is even less developed in the adult specimen figured in the *Ostéographie des Cétacés*.

In both the Massachusetts and New Jersey skulls the large foramina in the maxillæ are almost opposite those in the premaxillæ, while in the *Ostéographie* figure the former are considerably in advance of the latter.

The peculiar characters of the skull which distinguish *M. densirostris* are the deep rostrum and the depth and shape of the rostral portion of the premaxillæ; the large, forwardly directed foramina in the maxillæ which connect with the grooves on either side of the rostrum; the appearance of the malar in the bottoms of the anteorbital notches; the large palatines which entirely surround the pterygoids; the trifoliate foramen magnum and the mandible, each ramus of which is greatly swollen in the region of the single triangular tooth.

The skeleton has the following vertebral formula:

$$\begin{array}{ccccccc} \text{C} & \text{D} & \text{L} & \text{Ca} & & & \\ 7 & 10 & 11 & 16 & = & & 44 \end{array}$$

Certainly one, and possibly two, of the terminal caudal vertebræ are missing, so that the correct formula should probably be:

$$\begin{array}{ccccccc} \text{C} & \text{D} & \text{L} & \text{Ca} & & & \\ 7 & 10 & 11 & 18 & = & & 46 \end{array}$$

A skeleton of this species from the island of Lord Howe, Australia, has the following formula, according to Van Beneden and Gervais:

$$\begin{array}{ccccccc} \text{C} & \text{D} & \text{L} & \text{Ca} & & & \\ 7 & 10 & 11 & 17 & = & & 45 \end{array}$$

This whale measured 15 feet 9 inches in length, while the New Jersey specimen was 14 feet 5 inches long.

Allen gives the number of vertebræ in the Massachusetts skeleton as 45, but says it has only nine pairs of ribs, while both others have ten pairs. It is probable that the terminal pair in Allen's specimen may have been lost, as Cetacean skeletons are so frequently deficient in this respect.

The first three cervical vertebræ of the New Jersey whale are solidly ankylosed, but the remaining four are free.

The dorsal and lumbar vertebræ have the thigh, thin spines and short transverse processes so characteristic of the Ziphioid whales.

Nine chevrons are present, but the first and penultimate members of the series seem to be lacking, and I believe that eleven is the normal number.

There are ten pairs of ribs, the first seven on each side articulating

by means of a neck and head and the posterior three having only the tubercles; the terminal rib is very slender.

The sternum consists of four segments showing no tendency, as yet, toward ankylosis. The most anterior is concave above with a well-defined median carina below; the three remaining segments are flat with a median notch in both the anterior and posterior borders.

The sternum agrees well with that of the Massachusetts specimen figured by Allen except that the first segment of the New Jersey sternum is a little differently shaped and is much more deeply notched than in the former. This difference has no significance.

The scapula is widely fan-shaped, has a long, thin acromion curved inward and slightly upward, and a straight narrow coracoid directed somewhat upward and almost as long as the acromion.

The scapula resembles that of *Mesoplodon bidens* figured in the *Ostéographie des Cétacés*, Pl. XXII, fig. 2.

Several of the phalanges from each manus have been lost and, consequently, the correct formula cannot be given.

EXPLANATION OF PLATES XVI, XVII, AND XVIII.

PLATE XVI.—*Mesoplodon densirostris*; drawing from nature by Mr. Henry W. Fowler.

PLATE XVII.—Fig. 1.—Superior view of skull of *M. densirostris*.

Fig. 2.—Inferior view of skull of *M. densirostris*.

Fig. 3.—Lateral view of skull of *M. densirostris*.

PLATE XVIII.—Fig. 1.—Sternum of *M. densirostris*.

Fig. 2.—Scapula of *M. densirostris*.

Fig. 3.—First lumbar vertebra of *M. densirostris*.

Fig. 4.—First three cervical vertebræ of *M. densirostris*.

Fig. 5.—First caudal vertebra of *M. densirostris*.

Fig. 6.—First dorsal vertebra of *M. densirostris*.

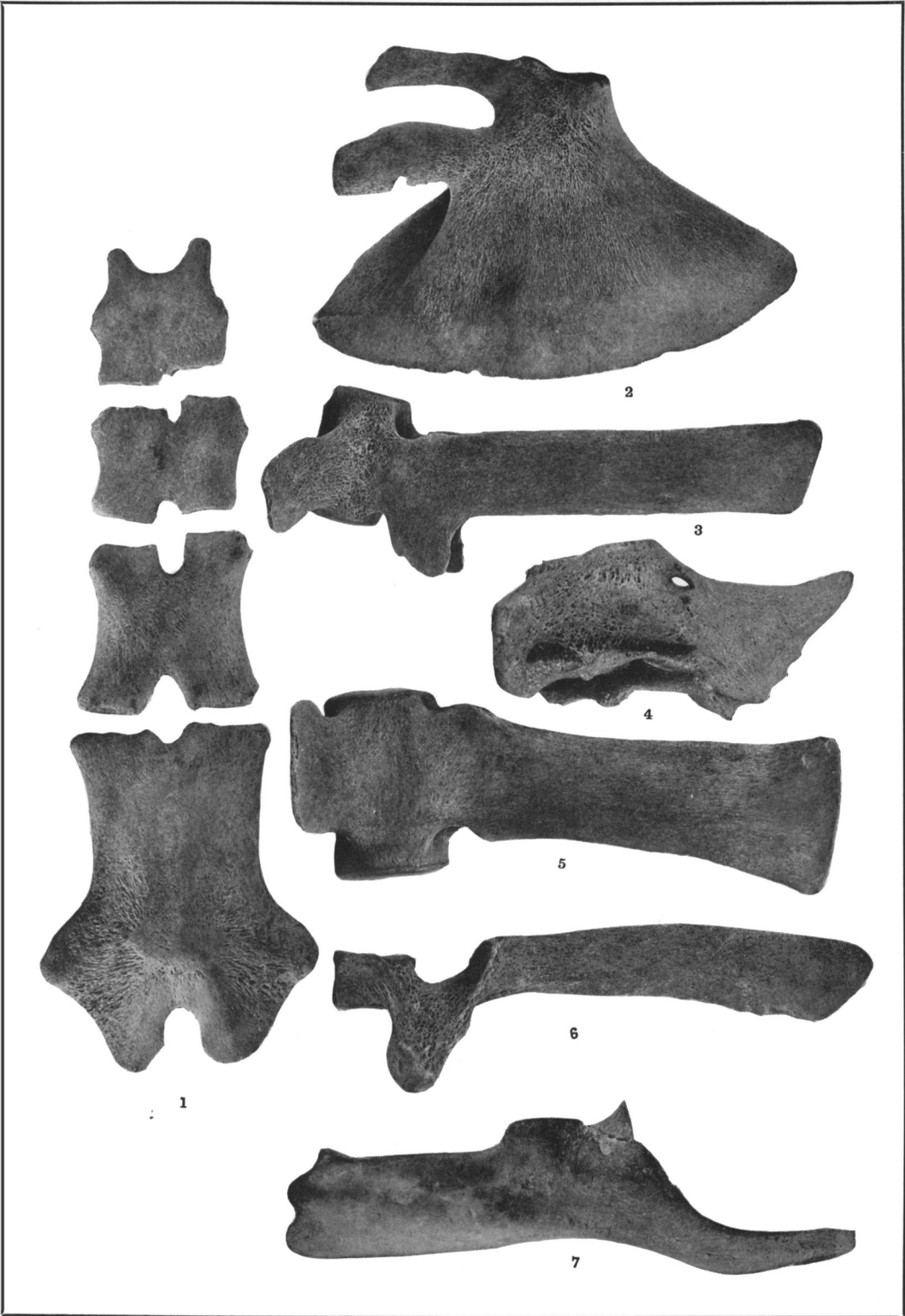
Fig. 7.—Right ramus of mandible of *M. densirostris*.



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